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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/448,124	11/24/1999	PRADEEP SINDHU	JNP-0013	4690

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FISH & RICHARDSON P.C.  
500 ARGUELLO STREET, SUITE 500  
REDWOOD CITY, CA 94063

EXAMINER

YAO, KWANG BIN

ART UNIT	PAPER NUMBER
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2664

12

DATE MAILED: 04/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/448,124

Applicant(s)

SINDHU ET AL.

Examiner

Kwang B. Yao

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 February 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 36-41 and 43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29, 34 and 42 is/are rejected.
- 7) ☒ Claim(s) 30-33 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. Claims 7-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7, line 9, "i" and "k" are undefined. The same problem is found in claim 23.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 and 24-26 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Khacherian et al. (US 5,768,257).

Regarding claims 1, 24-26, Khacherian et al. discloses a data switching system comprising the features of: depicted in Fig. 3, one or more source line cards (310) each including a request generator (316) to generate a request signal to be transmitted in order to obtain an authorization to transmit data; one or more destination line cards (320) each including a grant generator (328) to generate and send back a grant signal to a source line card (310) in response to the request signal received at the destination line card (320) to authorize the source line card to transmit a data cell to the destination line card (320); and a switching fabric (300) coupled to the source line card (310) and the destination line card (320), the switching fabric (300) being configured to receive and transmit the request, grant and data cell to the appropriate line cards.

Regarding claim 2, Khacherian et al. discloses the following features: the source line card further includes a data cell transmitter to transmit the data cell upon receiving the grant signal from the destination line card.

Regarding claim 3, Khacherian et al. discloses the following features: the source line card further includes transmit logic to receive a request signal and a data cell which are unrelated to each other on each cell slot from the request generator and data cell transmitter, respectively, and transmit the request signal and the data cell together to the switching fabric.

Regarding claim 4, Khacherian et al. discloses the following features: the source line card further includes transmit logic to receive a grant signal and a data cell which are unrelated to each other on each cell slot from the grant generator and data cell transmitter, respectively, and transmit the grant signal and the data cell together to the switching fabric.

Regarding claim 5, Khacherian et al. discloses the following features: the source line card further includes transmit logic to receive a request signal and a grant signal which are unrelated

to each other on each cell slot from the request generator and grant generator, respectively, and transmit the request signal and the grant signal together to the switching fabric.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 6, 7, 23, 27-29, 34, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khacherian et al. (US 5,768,257) in view of Koning et al. (US 6,125,112).

Khacherian et al. discloses the claimed limitation discussed above. Khacherian et al. does not disclose the features of: the switching fabric includes a plurality of planes, a plurality of stages crossbars. Koning et al. discloses a multistage ATM switch comprising the following features: depicted in Fig. 8, the switching fabric (10) includes a plurality of planes (12, 42, 72), each plane (12, 42, 72) being coupled to the source line card (150) and the destination line card

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(102) to receive and switch the request signal, the grant signal and the data cell to the appropriate line card; a plurality of first stage crossbars (12, 22, 32), each first stage crossbar (12, 22, 32) having a plurality of input ports and a plurality of output ports, wherein each of the input ports of the first stage crossbar are connected to a different source line card; a plurality of second stage crossbars (42, 52, 62), each second stage crossbar (42, 52, 62) having a plurality of input ports and a plurality of output ports, wherein an *i*th output port of *k*th first stage crossbar is connected to a *k*th input port of the *i*th second stage crossbar; and a plurality of third stage crossbars (72, 82, 92), each third stage crossbar (72, 82, 92) having a plurality of input ports and a plurality of output ports, wherein an *i*th output port of a *k*th second stage crossbar is connected to a *k*th input port of an *i*th third stage crossbar, wherein each of the output ports of the third stage crossbars are connected to a different destination line card. It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Khacherian et al. by using the features, as taught by Koning et al., in order to provide an efficient data transmission.

***Allowable Subject Matter***

8. Claims 8-22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. Claims 30-33 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tuckey (US 6,430,181) discloses a cell scheduling and forwarding technique.

Aybay (US 6,185,221) discloses a method for fair scheduling.

Hogg et al. (US 5,463,624) discloses a bus arbitration method.

Simcoe et al. (US 5,418,967) discloses a computer system.

Thacker (US 5,267,235) discloses a method for resource arbitration.

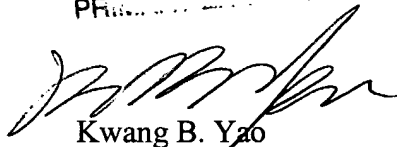
Hayakawa (US 5,042,029) discloses a packet switched communication system.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang B. Yao whose telephone number is 703-308-7583. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

KWANG BIN YAO  
PRINCIPAL EXAMINER



Kwang B. Yao  
April 12, 2003